

TOWN OF VIENNA, VIRGINIA
JOB DESCRIPTION

JOB TITLE: ELECTRICAL/TRAFFIC SIGNAL TECHNICIAN II
GENERAL MAINTENANCE DIVISION
PUBLIC WORKS DEPARTMENT

GENERAL STATEMENT OF JOB

Under general supervision, performs professional, skilled, and manual work involving new installation, maintenance, adjustment, and repair of electrical and integrated circuits on traffic control devices. Work involves designing and implementing of new traffic controlled intersections; having a strong understanding of traffic engineering as to the development of timing plans, traffic counts, traffic studies, and pedestrian considerations; having an understanding of Tort Laws and traffic legal liabilities; performing the general repair, maintenance, new installations, and improvement of electrical systems in Town buildings, including the installation of category 5 cable for computer networking, troubleshooting and repair of failed connections, and repairing live electrical circuits; working with voltages from 12 volts AC to 600 volts AC; and repairing all types of lighting systems (indoor and outdoor) used in commercial and industrial environments at heights up to 50 feet. Reports to the General Maintenance Supervisor.

SPECIFIC DUTIES AND RESPONSIBILITIES

ESSENTIAL JOB FUNCTIONS

Troubleshoots any electrical or electronic problems with the intersections traffic cabinet, Controller, MMU Detector, Loop Detector, and Wiring from Virginia power to the signal head.

Responds to any electrical emergencies anywhere in the Town.

Repairs and adds on to live circuits.

Installs electrical circuits and components in and outside of Town buildings as well as in the local parks.

Responds to emergencies involving any component of the signalized intersection.

Replaces defective traffic signal L.E.D. lights in signal heads from the bucket truck while maintaining a signalized intersection.

Maintains a closed loop system through a master controller using software.

Installs new wiring underground and in the traffic cabinet with live conductors present.

Installs new signal heads on mast arm from the bucket truck.

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Develops traffic signal timing.

Programs traffic controller with new or updated traffic timings.

Installs signal loops for vehicle detection.

Monitors and updates traffic signal timing, phasing, coordination, and proper operation from the traffic controller in the field and from a central computer.

Performs bench test on any electronic equipment before it is installed into any signalized intersection and to diagnose any problems if and when they occur once it is in a signalized intersection.

Repairs electrical problems as they arise in the Town's well pump system.

Designs and creates traffic signs using the computer and cutter/plotter.

Responds to after hour emergencies with the traffic signal system or Town electrical system.

Represents the Town in any litigation regarding traffic signal maintenance; provides legal depositions; coordinates related requests for documents.

Makes accurate estimates of time and materials needed for installation and repair work.

Responds to citizen and Town officials' complaints concerning traffic signal issues.

Installs and terminates category 5/data cable in Town properties.

Lays out requested traffic counting devices; compiles the report for the requestor.

Puts up and takes down Town approved banners across the main road utilizing the bucket truck.

Flags traffic during the banner operation ensuring the safety of the crew and the motorist.

Calculates proper amperage and loads on circuits.

Reviews and makes necessary changes to electrical plans submitted by contractors and engineers for the Town.

Designs plans for installation of electrical circuits and components in and outside of Town buildings as well as in the local parks.

Designs schematics for any new or add-ons to Town circuits.

Performs the installation of A.D.A. Pedestrian signal components in compliance with the M.U.T.C.D. (Manual on Uniform Traffic Control Devices).

Places and ensures proper operation of the Emergency generators at traffic signals during power outages.

Programs electronic message boards for parades, detours, and other Town functions.

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Coordinates traffic signal repairs with local Police and with other jurisdictions and entities.

Oversees the work of contractors; ensures compliance with all Town codes and regulations as well as Federal and State laws and regulations.

Inspects traffic poles, signal heads, and traffic cabinets to maintain proper working order.

Designs new signalized intersections and improvements to existing intersections.

Reviews and modifies any traffic signal schematics and plans.

Completes any State reports once work is completed.

Responds to memorandums from other Town employees regarding electrical or traffic questions.

Procures quotes for equipment and supplies as needed for new installations as well as for replacement of damaged material.

Retrieves electrical permits for various jobs.

Creates and maintains spreadsheets for traffic supply inventory and all Town lighting materials.

Attends meetings concerning the traffic system and training classes as available.

Ensures adequate materials are on hand for emergencies.

Removes and repairs Town concrete.

Prepares forms for concrete work installing them at the correct grade.

Performs emergency cut and removal of tree limbs.

Loads dump truck with front-end loader and backhoe.

Receives and/or reviews various records and reports such as schematics or blueprints of Traffic signal and electrical circuits, traffic counts, diagnostic readouts from traffic signal test equipment, traffic signal controller database printouts, and database results.

Prepares and/or processes various records and reports such as electrical calculations on circuits, devices, and systems; reports on traffic counts; list of items and expenses for maintenance and upgrade of electrical and traffic signal needs; traffic studies on accidents, speed violations, and pedestrians; and presentation on new traffic signal technology available.

Refers to Manual on Uniform Traffic Control Devices, National Electrical Code Book, International Traffic Engineers manuals, International Municipal Safety Association, Occupational Safety and Health Administration, policy and procedure manuals, codes / laws / regulations, publications and reference texts, etc.

Operates a variety of equipment and vehicles such as bucket truck, front-end loader, backhoe, dump trucks, traffic signal controller, A.T.S.I. testing equipment, desktop/laptop computer, electrical tester, traffic signal test cabinet, etc.

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Uses a variety of tools such as electrical tools, data tools, concrete tools, carpenter's tools, various hand and power tools, etc.; a variety of supplies such as traffic signal control devices, electrical wire of various sizes, sign material, electrical supplies, traffic counters, tubes, and traffic counting software, general office supplies, etc.; and a variety of computer software such as CLMATS, Microsoft Office, Synchro/Sim Traffic, Roadway Data, Easy Draw 7, etc.

Interacts and communicates with various groups and individual such as the General Maintenance Supervisor, Police Department, public officials, Virginia Department of Transportation, various vendors of electrical and traffic signal supplies, and the general public.

ADDITIONAL JOB FUNCTIONS

Operates a dump truck for snow plowing and sanding and leaf pick up and leaf vacuum for leaf pickup.

Fills in for supervisor during his absence occasionally.

Cleans and prepares the shop for citizens visiting.

Prepares and sets up displays for the public during open house.

Trains with other Town departments to assist them with their duties.

Assists with computer issues within the Public Works Department.

Performs related duties as required.

MINIMUM TRAINING AND EXPERIENCE

Requires a Technical college diploma in electronics or related field supplemented by three to five years of experience in traffic control, electrical, or closely related field; or an equivalent combination of education, training, and experience, which provides the required knowledge, skills, and abilities. Must possess Journeyman Electrician course certification, Category 5 certification, IMSA Work Zone Safety certification, IMSA Traffic Signal Technical Level I & II certifications, IMSA Associate Signs and Marking Specialist Level I, OSHA Electrical Safety, and OSHA Lockout/Tag Out Safety certifications.

MINIMUM QUALIFICATIONS OR STANDARDS REQUIRED TO PERFORM ESSENTIAL JOB FUNCTIONS

Physical Requirements: Tasks involve the regular and, at times, sustained performance of moderately physically demanding work, typically involving some combination of climbing, balancing, stooping, kneeling, crouching and crawling, and the lifting, carrying, pushing and/or pulling of moderately heavy objects and materials (up to 60 pounds) and occasionally heavier objects and materials (up to 80 pounds).

Data Conception: Requires the ability to compare and/or judge the readily observable functional, structural or compositional characteristics (whether similar to or divergent from obvious standards) of data, people, or things.

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Interpersonal Communications: Requires the ability of speaking and/or signaling people to convey or exchange information. Includes receiving assignments and/or direction from supervisor.

Language Ability: Requires ability to read a variety of policy and procedure manuals, equipment manuals, work orders, etc. Requires the ability to prepare simple reports, records, forms, etc., with proper format using prescribed formats and conforming to all rules of punctuation, grammar, diction, and style. Requires the ability to speak with and before others with poise, voice control and confidence.

Intelligence: Requires the ability to apply common sense understanding to carry out instructions furnished in written, oral or diagrammatic form; to deal with problems involving several concrete variables in or from standardized situations. Requires the ability to learn and understand principles and techniques; to make independent judgments in absence of supervision; to acquire knowledge of topics related to primary occupation. Must have the ability to comprehend and interpret received information.

Verbal Aptitude: Requires the ability to record and deliver information, to explain procedures, to follow and give verbal and written instructions; to teach workers. Must be able to communicate effectively and efficiently with co-workers and the public.

Numerical Aptitude: Requires the ability to add and subtract totals, to multiply and divide, to determine percentages and decimals, and to determine time. Must be able to use practical applications of fractions, percentages, ratio, proportion, and statistics.

Form/Spatial Aptitude: Requires the ability to inspect items for proper length, width and shape; to design contrasting combinations of colors and forms; and visually read various information.

Motor Coordination: Requires the ability to coordinate hands and eyes using specialized machinery; and to operate motor vehicles.

Manual Dexterity: Requires the ability to handle a variety of items, keyboards, office equipment, control knobs, buttons, switches, catches, tools, etc. Must have significant levels of eye/hand/foot coordination.

Color Discrimination and Visual Acuity: Requires the ability to differentiate colors and shades of color; requires the visual acuity to determine depth perception, peripheral vision, inspection for small parts; preparing and analyzing written or computer data, etc.

Interpersonal Temperament: Requires the ability to deal with people beyond giving and receiving instructions. Must be adaptable to performing under stress when confronted with emergency situations or tight deadlines. The worker may be subject to danger or risk to a moderate degree.

Physical Communications: Requires the ability to talk and hear: (talking: expressing or exchanging ideas by means of spoken words; hearing: perceiving nature of sounds by ear).

PERFORMANCE INDICATORS

Knowledge of Job: Has thorough knowledge of the methods, procedures, and policies of the Traffic Engineering Division of the Public Works Department as they pertain to the performance of

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duties of the Electrical/Traffic Signal Technician II. Has thorough knowledge of the laws, ordinances, standards, and regulations pertaining to the specific duties and responsibilities of the position. Is able to comprehend, interpret, and apply regulations, procedures, and related information. Has knowledge of the methods, materials, tools, and equipment used in traffic signal system maintenance and installation. Is able to safely and skillfully operate trucks and equipment necessary for assigned tasks. Has knowledge of and skill in the use of computers and other graphics production equipment. Has knowledge of the occupational hazards and safety precautions of the industry. Is able to work effectively despite occasional exposure to extreme weather and temperatures, wetness/humidity, machinery hazards, traffic hazards, dust, fumes, above-average noise, odors, smoke, vibrations, etc. Is able to provide instruction, leadership, and supervision to assigned laborers. Is able to offer training and assistance to co-workers and employees of other departments as required. Is able to learn and utilize new skills and information to improve job performance and efficiency. Has the mathematical ability to handle required calculations. Is able to plan, organize, and prioritize daily assignments and work activities. Is able to read and interpret blueprints, schematics, diagrams and other technical materials pertaining to the responsibilities of the job. Is able to read and understand work orders, equipment manuals, and other materials pertaining to the responsibilities of the job. Is able to prepare simple records with accuracy and in a timely manner. Has knowledge of the terminology used within the department. Has knowledge of how to maintain effective relationships with personnel of other departments, professionals, and members of the public through contact and cooperation. Has knowledge of how to react calmly and quickly in emergency situations.

Quality of Work: Maintains high standards of accuracy in exercising duties and responsibilities. Exercises immediate remedial action to correct any quality deficiencies that occur in areas of responsibility. Maintains high quality communication and interaction with internal and external entities with whom the position interacts.

Quantity of Work: Performs described Essential Functions and related assignments efficiently and effectively in order to produce quantity of work which consistently meets established standards and expectations.

Dependability: Assumes responsibility for completing assigned work. Completes assigned work within deadlines in accordance with directives, policy, standards and prescribed procedures. Maintains accountability for assigned responsibilities in the technical, human and conceptual areas.

Attendance: Attends and remains at work regularly and adheres to policies and procedures regarding absenteeism and tardiness. Provides adequate notice to higher management with respect to vacation time and leave requests.

Initiative and Enthusiasm: Maintains an enthusiastic, self-reliant and self-starting approach to meet job responsibilities and accountabilities. Strives to anticipate work to be accomplished, and initiates proper and acceptable action for the completion of work with a minimum of supervision and instruction.

Judgment: Exercises analytical judgment in areas of responsibility. Identifies issues or situations as they occur and specifies decision objectives. Identifies or assists in identifying alternative solutions to issues or situations. Implements decisions in accordance with prescribed and effective policies and procedures and with a minimum of errors. Seeks expert or experienced advice where appropriate and researches issues, situations and alternatives before exercising judgment.

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Cooperation: Accepts supervisory instruction and direction and strives to meet the goals and objectives of same. Questions such instruction and direction when clarification of results or consequences are justified, i.e., poor communications, variance with established policies or procedures, etc. Offers suggestions and recommendations to encourage and improve cooperation intra- and inter-departmentally.

Relationships with Others: Shares knowledge with managers, supervisors and co-workers for mutual benefit. Contributes to maintaining high morale among all employees. Develops and maintains cooperative and courteous relationships inter- and intra-departmentally, and with external entities with whom the position interacts. Tactfully and effectively handles requests, suggestions and complaints in order to establish and maintain good will. Emphasizes the importance of maintaining a positive image.

Coordination of Work: Plans and organizes daily work routine. Establishes priorities for the completion of work in accordance with sound time-management methodology. Avoids duplication of effort. Estimates expected time of completion of work elements and establishes a personal schedule accordingly. Attends required meetings, planning sessions and discussions on time. Implements work activity in accordance with priorities and estimated schedules.

Safety and Housekeeping: Adheres to all established safety and housekeeping standards. Ensures such standards are not violated.

DISCLAIMER: This job description is not an employment agreement or contract. Management has the exclusive right to alter this job description at any time without notice.